

GROUNDWATER

US EPA Region 9 GPRA Environmental Indicator Signature Page
RCRA Corrective Action Assessment of CA725
(Migration of Contaminated Groundwater Under Control)


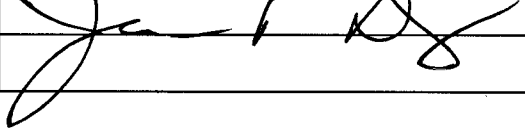
Facility Name	WHITTAKER/BERMITE FACILITY
Facility Address	22116 WEST SOLEDAD CANYON ROAD, SANTA CLARITA, CA 91350
U.S. EPA ID#	CAD064573108

Environmental indicators (EI) are site-wide determinations, based on the remedial work overseen by all agencies. There will be one overall determination for the EI, which considers the portions overseen by each agency. The final determinations for the EI will be NO or IN, if any portion of the site is IN or NO. To get an overall YES determination, all portions of the site must have YES determinations for the EI.

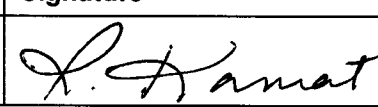
Migration of Contaminated Groundwater Under Control <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> IN	Groundwater EI determination for remedial activities overseen by: <input type="checkbox"/> USEPA Region 9 <input checked="" type="checkbox"/> California Department of Toxic Substances Control (DTSC) <input type="checkbox"/> California Regional Water Quality Control Board <input type="checkbox"/> DTSC Site Mitigation & Brownfields Reuse Program <input type="checkbox"/> Arizona Department of Environmental Quality <input type="checkbox"/> Nevada Department of Environmental Protection
---	--

I (we) agree that the factual information I (we) have provided concerning the remedial activities overseen at this facility by the lead regulatory agency identified above, as the basis for this EI assessment, is, to the best of my (our) knowledge, accurate.

Completed by:

Name(s) (print)	Agency	Signature
Frank Dellechaie, Senior Engineering Geologist PG, CEG, CHG	DTSC	
Jose Diaz, Senior Hazardous Sub. Sc.	DTSC	

Supervisor:

Name (print)	Title	Signature
Rita Kamat (818) 717-6538	Supervising HSS I	

HUMAN HEALTH

US EPA Region 9 GPRA Environmental Indicator Signature Page RCRA Corrective Action Assessment of CA750 (Current Human Exposures Under Control)


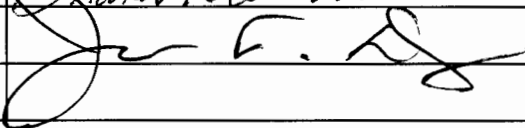
Facility Name	WHITTAKER/BERMITE FACILITY
Facility Address	22116 WEST SOLEDAD CANYON ROAD, SANTA CLARITA, CA 91350
U.S. EPA ID#	CAD064573108

Environmental indicators (EI) are site-wide determinations, based on the remedial work overseen by all agencies. There will be one overall determination for the EI, which considers the portions overseen by each agency. The final determinations for the EI will be NO or IN, if any portion of the site is IN or NO. To get an overall YES determination, all portions of the site must have YES determinations for the EI.

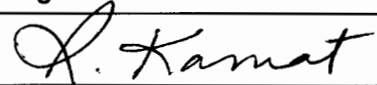
Current Human Exposures Under Control <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> IN	Human Health EI determination for remedial activities overseen by: <input type="checkbox"/> USEPA Region 9 <input checked="" type="checkbox"/> California Department of Toxic Substances Control (DTSC) <input type="checkbox"/> California Regional Water Quality Control Board <input type="checkbox"/> DTSC Site Mitigation & Brownfields Reuse Program <input type="checkbox"/> Arizona Department of Environmental Quality <input type="checkbox"/> Nevada Department of Environmental Protection
---	---

I (we) agree that the factual information I (we) have provided concerning the remedial activities at this facility overseen by the lead regulatory agency identified above, as the basis for this EI assessment, is, to the best of my (our) knowledge, accurate.

Completed by:

Name(s) (print)	Agency	Signature
Frank Dellechaie, Senior Engineering Geologist PG, CEG, CHG	DTSC	
Jose Diaz, Senior Hazardous Sub. Sc.	DTSC	

Supervisor:

Name (print)	Title	Signature
Rita Kamat (818) 717-6538	Supervising HSS I	

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 1

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action

Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures under Control

Facility Name: WHITTAKER/BERMITE FACILITY
Facility Address: 22116 WEST SOLEDAD CANYON ROAD SANTA CLARITA, CA 91350
Facility EPA ID #: CAD064573108

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

 X If yes - check here and continue with #2 below.

 If no - re-evaluate existing data, or

 If data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures under Control" EI

A positive "Current Human Exposures under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 2

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be “contaminated”¹ above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	X			PCE, TCE, Potassium perchlorate, ammonium perchlorate
Air (indoors) ²		X		NA
Surface Soil (e.g., <2 ft)	X			lead azide, red phosphorus, barium, zinc, copper, chromium, PCE, TCE, Potassium perchlorate, ammonium perchlorate
Surface Water		X		Only ephemeral surface water present as per storm events
Sediment	X			NA
Subsurface Soil (e.g., >2 ft)	X			lead azide, red phosphorus, barium, zinc, copper, chromium, PCE, TCE, Potassium perchlorate, ammonium perchlorate
Air (outdoors)		X		NA

_____ If no (for all media) - skip to #6, and enter “YE,” status code after providing or citing appropriate “levels,” and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.

X _____ If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter “IN” status code.

Rationale and Reference(s):

The site composed of 976 acres. The Halifax Powder Company opened the facility in 1906 which was purchased by the Bermite Corp in 1930s. Whittaker Corp purchased the property from Bermite in 1967. The facility was closed in 1987. Most of the buildings have been demolished and the facility is currently not operated. The site contained approximately 350 buildings located throughout the site which were used for manufacturing, storage and testing of explosives and administrative purposes. From 1934 until 1987, explosives were manufactured and tested, and off specification items were burned and buried on the site. These included dynamite, practice bombs, flares, fireworks, oil field explosives, igniters, gas generators, ammunition rounds, Jato rockets, and sidewinder and spin rocket motors. Material or mixtures of materials used at the site include lead azide, red phosphorus, barium, zinc, copper, chromium, and chlorinated solvents such as Tetrachloroethylene (PCE) and Trichloroethylene (TCE). Potassium perchlorate and ammonium perchlorate were also used as the oxidizer component of propellant mixtures. In 1993, a

¹ “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

² Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggests that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 3

soil investigation by DTSC in the Burn Valley area of the site detected 92,000 mg/kg PCE, 290 mg/kg lead, 36,000 mg/kg copper, 550 mg/kg chromium, 1,300 mg/kg barium. Thirty-two percent of phosphorus was also identified at the New Lead Azide area.

The facility was operating under interim status under RCRA and operating fourteen hazardous waste treatment, storage and disposal units. In November 1983, Whittaker Bermite filed three letters with DTSC describing the closure activities of these fourteen interim status units. DTSC acknowledged Whittaker's certification of closure for thirteen of the fourteen regulated hazardous waste management units. The one remaining hazardous waste management unit (now operable unit #6), a surface impoundment containing TCE contaminated soil was cleaned up under the OU2/OU6 RI/FS. In 1987, Whittaker Bermite identified Solid Waste Management Units (SWMUs) to U.S. EPA. In 1992, DTSC executed a search warrant which uncovered paperwork identifying additional potential SWMUs at the site that were not included in the previous reports. A history of on-site disposal and accidental explosions has occurred at the site. Martin Industrial Plumbing used the site for storage of Hazardous Waste containers, dumpsters, and tanker trailers.

On January 11, 1999, the Whittaker Corporation completed the sale of its Bermite facility to Santa Clarita L.L.C. (SCLLC), an affiliated entity of Remedial Financial, Incorporated (RFI). RFI is an Arizona corporation doing business in California. SCLLC is conducting site investigations and required remediations at the Site in order to develop the Site for residential and commercial use. DTSC approved an operable unit (OU) designation for the 996 acre site in April 1999. In designating seven (7) OUs a focused effort is placed on specific areas, migration pathways, and releases in discrete parts of the Site with the emphasis on addressing public health and environmental concerns first along with the needs of the community. The OU boundaries were drawn by drainage basin. OU6 within OU2 is the one remaining RCRA hazardous waste management unit. OU7 is site-wide groundwater. OU1 was broken up into sub-OUs to accommodate the community's need for a road leading to a proposed new school site.

The extension of Golden Valley Road traverses the northeastern portion of the site for access to the New Golden Valley High School. Approximately 12 acres dedicated for Golden Valley Road, has been partially constructed along the eastern portion of the site.

Residential housing is located to the south and southwest at the boundary of the site. An approximately ten acre portion of the northern border portion of the site has been converted into a commuter rail station by the city of Santa Clarita. A PEA determined that the site did not pose a threat to human health or the environment.

References

Project managers' knowledge of site
Envirostor

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 4

3. Are there **complete pathways** between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

“Contaminated” Media	Potential Human Receptors (Under Current Conditions)						Food ³
	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	
Groundwater	<i>no</i>	<i>no</i>	<i>na</i>	<i>no</i>			<i>na</i>
Air (indoors)	<i>no</i>	<i>no</i>	<i>na</i>				
Soil (surface, e.g., <2 ft)	<i>no</i>	<i>no</i>	<i>na</i>	<i>no</i>	<i>no</i>	<i>na</i>	<i>na</i>
Surface Water	<i>no</i>	<i>no</i>			<i>no</i>	<i>na</i>	<i>na</i>
Sediment	<i>no</i>	<i>no</i>			<i>no</i>	<i>na</i>	<i>na</i>
Soil (subsurface e.g., >2 ft)				<i>no</i>			<i>na</i>
Air (outdoors)	<i>no</i>	<i>no</i>	<i>na</i>	<i>no</i>	<i>no</i>		

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors’ spaces for Media which are not “contaminated” as identified in #2 above.
2. Enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“___”). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

<i>X</i>	If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter “YE” status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional <u>Pathway Evaluation Work Sheet</u> to analyze major pathways).
	If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.
	If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code.

Rationale and Reference(s):

Groundwater: *Even though ground water is contaminated, at this time no one is drinking contaminated ground water that emanates from this site. Upon detection of waste in the off site Castaic Lake Water Agency 1 and 2 wells located to the north west of the site, they were shut down and other wells that had no contamination were*

³ Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 5

substituted for these wells. Treatment systems for these two wells are scheduled to be complete by spring of 2009 when the wells will commence operation.

Soil (Surface): *Surface soil is still heavily contaminated in several areas. Several areas are now still undergoing remediation and treatment. However, because the site is fenced and heavily guarded, there is no exposure to individuals except for trained and protected remediation staff.*

Indoor Air: *The only occupied building is used for temporary guard, and remedial staging actions that are regulated under OSHA PELs.*

Surface Water and Surface Soil Related to Surface Water: *There is no perennial surface water or surface water related sediments on the site. All drainages are ephemeral.*

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 6

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **“significant”**⁴ (i.e., potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?

X	If no (exposures can not be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”
	If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”
	If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale and Reference(s)

Exposures to off site receptors have been controlled or cut off. The only onsite exposures are to trained and protected professional remedial staff. In the future soils will be treated to approved cleanup levels that do not lend unacceptable risk to receptors or else hazardous waste will be capped/covered such that no exposure will be allowed.

References

⁴ If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 7

5. Can the “significant” **exposures** (identified in #4) be shown to be within **acceptable** limits?

	If yes (all “significant” exposures have been shown to be within acceptable limits) - continue and enter “YE” after summarizing <u>and</u> referencing documentation justifying why all “significant” exposures to “contamination” are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).
	If no (there are current exposures that can be reasonably expected to be “unacceptable”)- continue and enter “NO” status code after providing a description of each potentially “unacceptable” exposure.
	If unknown (for any potentially “unacceptable” exposure) - continue and enter “IN” status code

Rationale and Reference(s):

References

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 8

6. Check the appropriate RCRIS status codes for the Current Human Exposures under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

X	YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the <i>WHITTAKER/BERMITE FACILITY</i> , EPA ID # <i>CAD064573108</i> , located at <i>22116 WEST SOLEDAD CANYON ROAD, SANTA CLARITA, CA 91350</i> under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.
	NO - "Current Human Exposures" are NOT "Under Control."
	IN - More information is needed to make a determination.

Completed by	(signature)	(See attached signature page.)	Date	
Jose Diaz	(print)			
	(title)			

Supervisor	(signature)	(See attached signature page)	Date	
Rita Kamat	(print)			
	(title)			
	(EPA Region or State)			

Locations where References may be found:
<i>Region 3 DTSC Chatsworth Office</i>
<i>RPMs Office</i>

Contact telephone and e-mail numbers

(name)	<i>Jose Diaz</i>
(phone #)	<i>818.717.6561</i>
(e-mail)	<i>JDiaz@dtsc.ca.gov</i>

Current Human Exposures Under Control
Environmental Indicator (EI) RCRIS code (CA725)
Page 9

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater under Control

Facility Name: WHITTAKER/BERMITE FACILITY
Facility Address: 22116 WEST SOLEDAD CANYON ROAD, SANTA CLARITA, CA 91350
Facility EPA ID #: CAD064573108

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

 x If yes - check here and continue with #2 below.

 If no - re-evaluate existing data, or

 If data are not available skip to #8 and enter (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of Contaminated Groundwater under Control

A positive Migration of Contaminated Groundwater Under Control EI determination (YE status code) indicates that the migration of contaminated groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original area of contaminated groundwater (for all groundwater contamination subject to RCRA corrective action at or from the identified facility (i.e., site-wide)). **Relationship of EI to Final Remedies**

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The Migration of Contaminated Groundwater under Control EI pertains **ONLY** to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database **ONLY** as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

Page 10

2. Is **groundwater** known or reasonably suspected to be **contaminated** above appropriately protective levels (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

X	If yes - continue after identifying key contaminants, citing appropriate levels, and Referencing supporting documentation.
	If no - skip to #8 and enter status code, after citing appropriate levels, and referencing supporting documentation to demonstrate that groundwater is not contaminated.
	If unknown - skip to #8 and enter status code.

Rationale and Reference(s):

The site composed of 976 acres. The Halifax Powder Company opened the facility in 1906 which was purchased by the Bermite Corp in 1930s. Whittaker Corp purchased the property from Bermite in 1967. The facility was closed in 1987. Most of the buildings have been demolished and the facility is currently not operated. The site contained approximately 350 buildings located throughout the site which were used for manufacturing, storage and testing of explosives and administrative purposes. From 1934 until 1987, explosives were manufactured and tested, and off specification items were burned and buried on the site. These included dynamite, practice bombs, flares, fireworks, oil field explosives, igniters, gas generators, ammunition rounds, Jato rockets, and sidewinder and spin rocket motors. Material or mixtures of materials used at the site include lead azide, red phosphorus, barium, zinc, copper, chromium, and chlorinated solvents such as Tetrachloroethylene (PCE) and Trichloroethylene (TCE). Potassium perchlorate and ammonium perchlorate were also used as the oxidizer component of propellant mixtures. In 1993, a soil investigation by DTSC in the Burn Valley area of the site detected 92,000 mg/kg PCE, 290 mg/kg lead, 36,000 mg/kg copper, 550 mg/kg chromium, 1,300 mg/kg barium. Thirty-two percent of phosphorus was also identified at the New Lead Azide area.

The facility was operating under interim status under RCRA and operating fourteen hazardous waste treatment, storage and disposal units. In November 1983, Whittaker Bermite filed three letters with DTSC describing the closure activities of these fourteen interim status units. DTSC acknowledged Whittaker's certification of closure for thirteen of the fourteen regulated hazardous waste management units. The one remaining hazardous waste management unit (now operable unit #6), a surface impoundment containing TCE contaminated soil was cleaned up under the OU2/OU6 RI/FS. In 1987, Whittaker Bermite identified Solid Waste Management Units (SWMUs) to U.S. EPA. In 1992, DTSC executed a search warrant which uncovered paperwork identifying additional potential SWMUs at the site that were not included in the previous reports. A history of on-site disposal and accidental explosions has occurred at the site. Martin Industrial Plumbing used the site for storage of Hazardous Waste containers, dumpsters, and tanker trailers.

On January 11, 1999, the Whittaker Corporation completed the sale of its Bermite facility to Santa Clarita L.L.C. (SCLLC), an affiliated entity of Remedial Financial, Incorporated (RFI). RFI is an Arizona corporation doing business in California. SCLLC is conducting site investigations and required remediations at the Site in order to develop the Site for residential and commercial use. DTSC approved an operable unit (OU) designation for the 996 acre site in April 1999. In designating seven (7) OUs a focused effort is placed on specific areas, migration pathways, and releases in discrete parts of the Site with the emphasis on addressing public health and environmental concerns first along with the needs of the community. The OU boundaries were drawn by drainage basin. OU6 within OU2 is the one remaining RCRA hazardous waste management unit. OU7 is site-wide groundwater. OU1 was broken up into sub-OUs to accommodate the community's need for a road leading to a proposed new school site.

The extension of Golden Valley Road traverses the northeastern portion of the site for access to the New Golden Valley High School. Approximately 12 acres dedicated for Golden Valley Road, has been partially constructed along the eastern portion of the site.

Residential housing is located to the south and southwest at the boundary of the site. An approximately ten acre portion of the northern border portion of the site has been converted into a commuter rail station by the city of Santa Clarita. A PEA determined that the site did not pose a threat to human health or the environment.

References

Project managers' knowledge of site
Envirostor

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

Page 11

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within existing area of contaminated groundwater as defined by the monitoring locations designated at the time of this determination)?

X	If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the existing area of groundwater contamination ²).
	If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the existing area of groundwater contamination ²) - skip to #8 and enter status code, after providing an explanation.
	If unknown - skip to #8 and enter status code.

Rationale and Reference(s):

The Operable Unit 7 – Ground Water Operating Unit includes a pump and treat system to the north of the site that precludes contaminated ground water from reaching surface water. To the north west, the off site Castaic Lake Water Agency 1 and 2 wells have Treatment systems installed that remove contaminants prior to transmission of the water to the distribution system..

References:

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 12

4. Does contaminated groundwater **discharge** into **surface water** bodies?

	If yes - continue after identifying potentially affected surface water bodies.
X	If no - skip to #7 (and enter a YE status code in #8, if #7 yes) after providing an explanation and/or referencing documentation supporting that groundwater contamination does not enter surface water bodies.
	If unknown - skip to #8 and enter status code.

Rationale and Reference(s):

In the northern section of the Ground Water Operating Unit 7, a pump and treat system precludes contaminated ground water from reaching surface water

References

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)
Page 13

5. Is the **discharge** of contaminated groundwater into surface water likely to be **insignificant** (i.e., the maximum concentration⁵ of each contaminant discharging into surface water is less than 10 times their appropriate groundwater level, and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

	If yes - skip to #7 (and enter AYE status code in #8 if #7 yes), after documenting: 1) the maximum known or reasonably suspected concentration ³ of <u>key</u> contaminants discharged above their groundwater level, the value of the appropriate level(s), and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgment/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.
	If no - (the discharge of contaminated groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration ³ of <u>each</u> contaminant discharged above its groundwater level, the value of the appropriate level(s), and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations ³ greater than 100 times their appropriate groundwater levels, the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.
	If unknown - enter status code in #8.

Rationale and Reference(s):

References

⁵ As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 14

6. Can the **discharge** of contaminated groundwater into surface water be shown to be **currently acceptable** (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented⁶)?

	If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the sites surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment, ⁷ appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment levels, as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.
	If no - (the discharge of contaminated groundwater can not be shown to be currently acceptable - skip to #8 and enter status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.
	If unknown - skip to 8 and enter status code.

Rationale and Reference(s):

References

⁶ Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

⁷ The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 15

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the existing area of contaminated groundwater?

x	If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the existing area of groundwater contamination.
	If no - enter status code in #8.
	If unknown - enter status code in #8.

Rationale and Reference(s):

There are numerous ground water monitoring wells on and off the site. Depending on the monitoring wells, there will be quarterly, semi-annual, and annual GW monitoring continued well into the future.

References

**Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)**

Page 16

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

X	YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI Determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the <i>WHITTAKER/BERMITE FACILITY</i> , EPA ID # <i>CAD064573108</i> , located at <i>22116 WEST SOLEDAD CANYON ROAD, SANTA CLARITA, CA 91350</i> . Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater." This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.
	NO - Unacceptable migration of contaminated ground water is observed or expected.
	IN - More information is needed to make a determination.

Completed by	(signature)	(see attached signature page)	Date	
Jose Diaz	(print)			
	(title)			

Supervisor	(signature)	(see attached signature page)	Date	
Rita Kamat	(print)			
	(title)			
	(EPA Region or State)			

Locations where References may be found:
<i>DTSC Region 3 Chatsworth Office</i> <i>Project manager's office</i>

Contact telephone and e-mail numbers

(name)	<i>Jose Diaz</i>
(phone #)	<i>818.717.6561</i>
(e-mail)	<i>JDiaz@dtsc.ca.gov</i>